Confederated Tribes and Bands
of the Yakima Indian Nation

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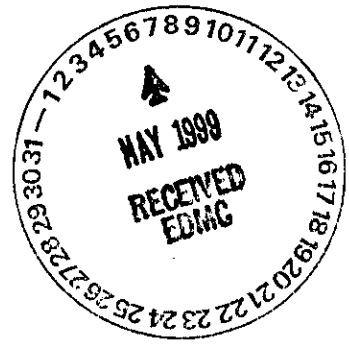
Established by the
Treaty of June 9, 1855

April 8, 1993

John Wagoner,
Manager Richland Operations Office
Department of Energy
P.O. Box 550
Richland, WA 99352

Ms. Mary Riveland, Director
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600



Ms. Dana Rasmussen
Regional Administrator
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

Subject: TANK WASTE REMEDIATION SYSTEM; FUTURE COURSE OF ACTION TO ACCOMPLISH DESIGN DECISION; RECOMMENDATIONS AND COMMENTS--

Dear Mr. Wagoner, Ms. Riveland and Ms. Rasmussen:

Mr. Wagoner's letter to Ms. Riveland and Ms. Rasmussen of March 31, 1993 recently came to our attention. As you know it contains issues of great importance to the Yakima Indian Nation. However, we are concerned that comments we have consistently made with respect to remediation and waste management have been disregarded in the "AGREEMENT IN PRINCIPLE" among EPA, DOE and Ecology. Although we agree with many of the actions identified in the "AGREEMENT IN PRINCIPLE", they were negotiated without outside input and would appear to fly in the face of the professed intent of DOE and Ecology to provide for public, state and tribal participation.

For example, the draft proposed milestone outline does not resolve issues associated with the creation of grout vaults that would utilize new uncontaminated lands and pose risks to future generations. This has been and remains a major issue. Stakeholders other than the Yakima Nation have raised the same issues with respect to the proposed grout vaults, but planning continues, apparently oblivious of these disagreements.

In another instance (item 4c of the AGREEMENT IN PRINCIPLE) it appears there is agreement to expedite actions to encapsulate the irradiated fuel in the K-East Basin. However it is our conclusion that this action is not warranted and inconsistent with DOE's objective to minimize wastes and avoid worker and public exposure

to radiation. We consider that encapsulation produces more waste because of the generation of contaminated aluminum canisters and the release of CRUD from fuel during handling. (The aluminum cans would nominally be considered by DOE to constitute low-level radioactive waste and buried in a site at Hanford. We consider that the aluminum cans may contain long-lived isotopes, e.g., carbon-14, that should be disposed of in a deep geologic repository, along with the spent fuel, to provide permanent isolation.)

In addition the proposed action to re-encapsulate the K-East fuel will not prevent the generation of tritium in the water basin, a major contaminant in the ground water released from the leaking K-East Basin. Dry storage of the fuel is required to prevent the generation of tritium. Again we note that our long standing recommendation for dry cask storage of the fuel is the appropriate solution to the K-Basin problem. The extensive handling associated with the re-encapsulation is not warranted. It merely exposes workers, extends the time when decommissioning of the K-Basins occurs and expends unnecessary resources associated with drawn out operation and maintenance of the facility.

We recommend that large shielded casks be fabricated from ductile cast iron and that procurement be expedited. Fuel, including the aluminum cans with the fuel inside, should be stored dry in such casks. Issues associated with the potential rapid oxidation of damaged fuel should be resolved by experiments with worst cask (damaged) fuel, to determine whether or not an inert gas atmosphere is indicated for dry storage.

We consider that government-to-government negotiations should be conducted with the YIN to obtain concurrence in actions that affect the long term integrity or short term environmental degradation of the Hanford environment.

We have attached a letter of November 1991 identifying strategies for Hanford environmental restoration and waste management which are still useful as a basis for deciding other early actions.

Sincerely,

Russell Jim , Manager
Environmental Restoration/Waste Management Program
Yakima Indian Nation
P.O. Box 151 Old Fort Road
Toppenish, WA

Attachment: YIN letter to John Wagoner of November 27, 1991 with its Attachment A

cc. Paul Grimm, EM, DOE
Jill Lytle, DOE
John Tseng, DOE
K. Clarke, DOE/RL
Jim Peterson, DOE/RL 5YP
R. Jim ER/WM, YIN
M. Dick Squeochs, YIN
C. Sanchey, YIN
Washington Gov. M. Lowry
U. S. Congressman J. Inslee
U. S. Senator P. Murray
Joe Stohr, WA Dept of Ecology
David Berick
Michael Campbell

November 27, 1991

John Wagoner,
Manager Richland Operations Office
Department of Energy
P.O. Box 550
Richland, WA 99352

Re: ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT SITE-SPECIFIC PLAN, DOE/RL 91-25--COMMENTS ON

Dear Mr. Wagoner:

Enclosed with this letter as Attachment A are the Yakima Indian Nation (YIN) comments (additional comments will follow in separate correspondence) on the subject Five-year Plan for the Hanford Site. They include recommendations for actions consistent with the goal of the YIN to expediently promote and realize YIN's rights while minimizing costs. The basic functional objectives derived from this goal are summarized as follows:

a. Cleanup facilities along the River at Hanford first, and resolve issues involving extreme safety hazards at the same time.
b. Concentrate wastes in terms of volume and land space utilized for disposal, if on-site disposal is agreed to. (DO NOT DILUTE WASTES.)
c. Destroy all the wastes that can be so treated.
d. Do not create any more waste disposal sites and utilize existing waste sites and waste packages to maximum extent possible.
e. Implement waste management that utilizes simple existing technologies.
f. Discontinue operations of facilities, if no clear-cut production mission is identified.
g. Cleanup contaminated water plumes immediately to prevent further spread of contamination, relying on the natural hydrologic conduits on the Hanford Site to conduct ground water to production water wells for cleanup to drinking water standards.
h. Minimize long-term environmental liability at the Site.
i. Utilize small (modular) cleanup/treatment facilities that can be constructed and put into operation quickly and can be totally decontaminated and decommissioned.
J. Provide for the production of substantial waste forms of long-term integrity should such forms be required for disposal, whether or not disposal is on-site or off-site.

Sincerely,

F. Robert Cook, Technical Analyst
Environmental Restoration/Waste Management Program
Yakima Indian Nation
1933 Jadwin Avenue
Richland, WA 99352

ATTACHMENT A--YIN COMMENTS ON DOE RICHLAND OPERATIONS FIVE-YEAR PLAN

1. Consistent with comments we have made in conjunction with the development of DOE's Environmental Restoration Prioritization plan, Section 1.4, Purpose, should, in addition to the consideration of risks to the public, workers and the environment, establish priorities for tasks based on the consideration of YIN rights stemming from the Treaty of 1855 and other laws of the United States. Thus, the expeditious decommissioning and or remediation of the old reactor sites and the elimination of other conditions inhibiting the exercise of the right to fish in usual and accustomed places and to erect structures associated with fishing practices should, for example, be objectives considered in setting priorities.

2. In the statement of the Mission in Section 1.5 the item regarding recognition of Tribal sovereignty and treaty rights is necessary but not sufficient to effect the YIN realization of its rights. Positive actions to protect, promote and effect rights are necessary by the DOE. This mission statement should be modified to include these objectives.

3. Regarding Section 2.1.2, the YIN disagrees with the strategy indicated with respect to the double-shell tank wastes for the following reasons:

a. The current plan for separating the wastes into two wastes streams, including a low activity fraction, utilizes the Hanford Site for final disposal of the low-activity wastes. The long-term environmental liability associated with this action in not acceptable, since it has the potential of restricting free access and use of the area for an indefinite period, thus, denying the exercise of YIN rights. Specifically, the nitrates and other long-lived isotopes in the low-level waste stream, including C-14, I-129, Se-79 and other stable isotopes of Se, Np-237, and various toxic organic compounds all have the potential of contaminating the groundwater and hence the springs and seeps along the River.

b. The dilution of double shell tank wastes by grout formation and glass formation constitutes an unwise waste management practice, it is not cost effective and is inconsistent with a waste disposal system that will afford long-term isolation of the wastes. Comments provided to the DOE regarding the processing of single-shell tank wastes are considered to be pertinent to the management of double-shell tank wastes. <u>The comments identify actions with which the YIN would concur</u>. The action favored by the YIN is to calcine wastes.

This action would concentrate wastes, provide flexibility in accomplishing additional processing (if required for disposal in the deep repository), achieve the complete removal of the tank

wastes from the ceded lands and minimize waste management costs. The actions proposed are consistent with the utilization of storage casks which would provide cost effective management of wastes in a MRS should a repository not be available to accept the Hanford wastes. Development activities should be initiated to refine techniques for calcining the high sodium wastes that exist in the Hanford tanks. This should include the blending of wastes, the addition of high melting point materials, including basaltic sands, and the use of special designed calciners to achieve effective calcining without excessive fusing of waste materials.

c. The action to dispose the low-level fraction of the high-level radioactive wastes in the double-shell tanks on the Hanford Site does not reflect obtaining a license for the disposal of these wastes from the Nuclear Regulatory Commission and therefore would be against the law. In addition the disposal facility, since it would include toxic chemical wastes, would require long-term monitoring, a condition the YIN considers to be undesirable. Disposal facilities if allowed on ceded lands should be designed to be safe without long-term care. The Yucca Mountain repository for High-level wastes will meet this objective.

d. The plan proposed for the double-shell tank wastes has not been integrated with actions to manage single-shell tank wastes. The engineered system to accomplish these two tasks should be integrated to assure cost effectiveness. Such integration will save large sums of monies and expedite cleanup. In addition the Hanford site defense waste management actions should be integrated into a system whose scope encompasses the entire waste management system, including the repository and transportation component of the overall system. The PEIS for DOE waste management should include information and evaluations that accomplish or describe this integration, this being a major objective for the document.

4. The Hanford EIS of 1987 should be revised to reflect changes in the requirements for management of the single-shell tank wastes, necessitated by laws and regulations. The subject plan should reflect this situation and identify incorporation of the EIS as a sub-tier document of the PEIS. This comment is pertinent to the strategy described on page 2-2.

5. The performance objectives of DOE Order 5820.2A should be reviewed relative to the requirement to assure YIN rights. We request that a copy of this Order be provided to us for review such that the YIN can identify changes that would serve to establish acceptable environmental remediation design base requirements.

6. Actions to accomplish interim stabilization of wastes in single shell tanks include the use of evaporators. These facilities do not make use of the best available technology for the capture of volatile radio isotopes and other organic toxic compounds in the off-gas waste stream. For example, disposal of I-129 to the

atmosphere by degassing accomplished in the evaporator facility is unacceptable waste management practice. The implementation of activated carbon filters for organics, (including organic-iodine compounds) and silver reactors for iodine capture should be utilized in these facilities. Such strategy should be incorporated in Section 2. In general off-gas systems should not depend upon dilution to achieve acceptable stack gas concentrations.

The best available technology should be utilized to capture radionuclides or toxicants regardless of their concentrations relative to EPA or DOE requirements for air purity at the site boundary or at the top of the stack. General use of the biosphere for the disposal of long-lived undesirable substances is an unacceptable policy and should be discontinued by DOE.

7. Plans to decommission the Plutonium Finishing Plant should eliminate subsequent production runs to "clean out" the facility. The YIN considers that the off-gas system is inadequate to control the release of small particulate actinide wastes (particles smaller than 10-7 meters.) The facility should be disassembled with decontamination of ducts and other contaminated equipment accomplished, if warranted, to assure safety. Since plutonium production is no longer an objective, the residual plutonium should be disposed of in the appropriate repository. It should be removed from the Hanford Site to eliminate the long-term environmental liability it poses.

8. The plan should include actions to dispose of residual neptunium bearing reprocessing streams in storage in the 200 area. If no use is identified for this material, it should be declared waste and disposal plans should be formulated. For example, calcining the waste would seem to be a potential alternative and would be consistent with waste management strategies recommended by the YIN for other wastes. Leaving the material in a liquid form without any identified use is inconsistent with good management practice. Shipping the material to another DOE facility in a liquid form would be undesirable and potentially not allowed by transportation regulations. Because of the unique chemical nature of neptunium, including its mobility in hydrologic systems, it should not be mixed with other wastes, but should be managed separately.

9. Ground plumes from former disposal of liquid wastes, for example, the plumes associated with the BY Cribs the BC cribs and other liquid disposal areas should be handled under and expedited response to minimize further spread of the plumes. Again, the identification and use of discrete hydrologic pathways of relatively high conductivity should be utilized to effect the remediation of the groundwater contamination plumes.